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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/738,431	12/17/2003	Gregory L. Slaughter	5760-13700	8069
35690 7590 07/20/2007 MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C. P.O. BOX 398 AUSTIN, TX 78767-0398			EXAMINER SOL, ANTHONY M	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 07/20/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/738,431

Applicant(s)

SLAUGHTER ET AL.

Examiner

Anthony Sol

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/17/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "wherein X is substantially smaller than N". The word "substantially" is subjective and therefore indefinite. Does substantially smaller mean half as much, in the order of magnitude smaller, or what?

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-18 are rejected under 35 U.S.C. 101 because the phrase "computer-readable medium" is the accepted language in computer-processing related claims (see MPEP 2106.01). An excerpt from the MPEP 2106.01 is recited below:

Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and USPTO personnel should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material.

Furthermore, "a carrier medium" is not a process, machine, manufacture, or composition of matter, thus not statutory.

For claims 1, 17 and 18, it is suggested that phrase "A carrier medium" be replaced with "A computer-readable medium" in accordance with acceptable language in computer-processing related claims.

For claims 2-16, line 1, it is suggest that the phrase "The carrier medium" be replaced with "The computer-readable medium" in accordance with acceptable language in computer-processing related claims.

Appropriate corrections are required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 5-16, 18, 19 and 23-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Pub. No. US 2005/0086469 A1 ("Dunagan") and Pub. No. US 2004/0054807 A1 ("Harvey").

Note: Dunagan incorporates by reference in its entirety the commonly assigned U.S. Patent application Ser. No. 10/356,961 which is published as US 2004/0054807 A1 (see , para. 58).

Regarding claims 1, 18, and 19,

Harvey shows in fig. 9 determining an ordering for a plurality of  $N$  nodes such that the nodes are circularly ordered as nodes  $D_0, D_1, D_2, \dots, D_{N-1}$  and that each node  $D_i$  in the plurality of nodes establishing a link to  $X$  other nodes chosen as nodes  $D_{i+1}, D_{i+2}, \dots, D_{i+x}$ , wrapping to  $D_0$  if necessary.

Dunagan discloses that each node  $D_j$  in at least a subset of the plurality of nodes establishing a link with one or more additional chosen nodes not in the set  $D_{j,x}, D_{j-x+1}, \dots, D_{j-1}, D_{j+1}, D_{j+2}, \dots, D_{j+x}$  (paras. 71, 72, *Node A picks a random entry from its routing table and sends the indicated node the subscription request*).

Regarding claims 5 and 23,

Dunagan discloses an event notification service that operates as a peer-to-peer messaging system (para. 50).

Regarding claim 6,

Harvey shows in fig. 9 that nodes are circularly ordered.

Regarding claims 7 and 24,

Harvey shows in fig. 9 that the subset includes nodes whose position in the ordering is a multiple of  $2X$ . For example if  $X=1$ , the routing table of node A shows for level 1 the next hop nodes are M and X.

Regarding claims 8 and 25,

Harvey shows in fig. 9, an 8 node example where  $X=2$  is substantially smaller than  $N=8$ .

Regarding claims 9 and 26,

Dunagan shows in fig. 2b a node ID 206.

Dunagan discloses that once a node has been assigned its name ID and numeric ID, the set of routing table pointers it may choose is deterministic (para. 117).

Regarding claim 10,

Dunagan shows in fig. 2b a node ID 206.

Dunagan discloses that once a node has been assigned its name ID and numeric ID, the set of routing table pointers it may choose is deterministic (para. 117).

Harvey shows in fig. 9, nodes ordered by name ID, but it is within the capability of one skilled in the art to provide an example with nodes  $D_0, D_1, \dots, D_{N-1}$  given that Dunagan shows a node ID 206 in fig. 2b.

Regarding claims 11 and 27,

Harvey discloses that virtual nodes that can be associated with a single physical network node (paras. 125-126).

Regarding claim 12,

Dunagan discloses that event notification can be transmitted in UDP or TCP (para. 50).

Regarding claims 13 and 28,

Dunagan shows in fig. 1 a logical connections that includes a local area network (LAN) 171 (para. 46).

Regarding claims 14 and 29,

Dunagan discloses that each node  $D_j$  in at least a subset of the plurality of nodes establishing a link with one or more additional chosen nodes not in the set  $D_{j,x}, D_{j-x+1}, \dots D_{j-1}, D_{j+1}, D_{j+2}, \dots D_{j+x}$  (paras. 71, 72, *Node A picks a random entry from its routing table and sends the indicated node the subscription request*).

Regarding claims 15 and 16,

Harvey discloses that the overall search efficiency is  $O(\log n)$  (paras. 74, 85).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-4, 17 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunagan and Harvey in view of U.S. Patent No. 6,282,170 B1 ("Bentall").

Regarding claims 2 and 20,

Dunagan and Harvey do not disclose that for each node  $D_j$  in the at least the subset, each node in the set  $D_{j,x}, D_{j-x+1}, \dots, D_{j-1}, D_{j+1}, D_{j+2}, \dots, D_{j+x}$  establishing a link with the one or more additional nodes chosen by the node  $D_j$ .

Bentall shows in fig. 23 node 152 establishing a link with node 155, and nodes 151 and 153 also establishing a connection with node 155.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the fault tolerant notification method of Dunagan and Harvey with restoration path method as discloses by Bentall. One skilled in the art would have been motivated to make the combination to set up a new virtual path to avoid the failed-part (Bentall, col. 8, lines 28-33).

Regarding claims 3, 4, 21 and 22,



Dunagan and Harvey do not disclose that for each node  $D_j$  in the at least the subset establishing a link with one or more additional chosen nodes not in the set  $D_{j,x}$ ,  $D_{j-x+1}$ , ...,  $D_{j-1}$ ,  $D_{j+1}$ ,  $D_{j+2}$ , ...,  $D_{j+x}$  comprises each node  $D_j$  in the at least the subset establishing a link with one or more randomly chosen nodes not in the set  $D_{j,x}$ ,  $D_{j-x+1}$ , ...,  $D_{j-1}$ ,  $D_{j+1}$ ,  $D_{j+2}$ , ...,  $D_{j+x}$ .

Bentall shows in fig. 23 node 152 establishing a link with node 155, and nodes 151 and 153 also establishing a connection with node 155.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the fault tolerant notification method of Dunagan and Harvey with restoration path method as discloses by Bentall. One skilled in the art would have been motivated to make the combination to set up a new virtual path to avoid the failed-part (Bentall, col. 8, lines 28-33).

Regarding claim 17,

Harvey shows in fig. 9 determining an ordering for a plurality of  $N$  nodes such that the nodes are circularly ordered as nodes  $D_0$ ,  $D_1$ ,  $D_2$ , ...,  $D_{N-1}$  and that each node  $D_i$  in the plurality of nodes establishing a link to  $X$  other nodes chosen as nodes  $D_{i+1}$ ,  $D_{i+2}$ , ...,  $D_{i+x}$ , wrapping to  $D_0$  if necessary.

Dunagan discloses that for each node  $D_j$  in at least a subset of the plurality of nodes the node  $D_j$  establishing a link with one or more randomly chosen nodes not in the set  $D_{j,x}$ ,  $D_{j-x+1}$ , ...,  $D_{j-1}$ ,  $D_{j+1}$ ,  $D_{j+2}$ , ...,  $D_{j+x}$  (paras. 71, 72, *Node A picks a random entry from its routing table and sends the indicated node the subscription request*).

Dunagan and Harvey do not disclose that each node in the set  $D_{j,x}, D_{j-x+1}, \dots, D_{j-1}, D_{j+1}, D_{j+2}, \dots, D_{j+x}$  establishing a link with the one or more nodes randomly chosen by the node  $D_j$ .

Bentall shows in fig. 23 node 152 establishing a link with node 155, and nodes 151 and 153 also establishing a connection with node 155.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the fault tolerant notification method of Dunagan and Harvey with restoration path method as discloses by Bentall. One skilled in the art would have been motivated to make the combination to set up a new virtual path to avoid the failed-part (Bentall, col. 8, lines 28-33).

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ott (US7216179 B2) teaches high-performance addressing and routing of data packets with semantically descriptive labels in a computer network.

Chandra (US6091724) teaches routing messages within a network using the data content of the message.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Sol whose telephone number is (571) 272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

Art Unit: 2616

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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7/17/2007